Installing FlexNet Manager Suite 2015 R2 On Premises

Contents

Legal Information

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Preparation

Topics:

- *Synopsis and Server Breakdown*
- *Prerequisites and Downloads*

This document describes installation of FlexNet Manager Suite 2015 R2 on the central application server of an on premises implementation.

Note • Managed service providers should reference the separate documentation available for multi-tenant environments.

This document is intended for use by:

- System engineers responsible for implementing and maintaining the system
- Network and security personnel with responsibility for infrastructure that the system relies on
- Flexera Software consultants implementing your system.

Assumptions: Readers have completed at least the appropriate training course in FlexNet Manager Suite administration, and understand basic product concepts. Readers have a technical background and are experienced with product installations and configuration.

Synopsis and Server Breakdown

The major steps in the installation process are:

1. Verify all prerequisites, including the installing (administrator) account and operational services account.

2. Install all required databases.

3. Authorize the service account.

4. Install the web interface on the web application server.

5. In a medium-to-large system (collecting FlexNet inventory for 50,000 devices or more), install one or more inventory servers as required.

6. If you are implementing a large system, install a separate batch server. (The order of server installation is important.)

Tip • *On very large systems, it is possible to further separate the batch server into a batch scheduling server and a number of slave batch servers. If so, the batch scheduling server is installed now, and the additional batch servers are installed next.*

7. Optionally, install FlexNet Report Designer.

8. Use the provided PowerShell scripts to configure the system.

9. Product activation.

10. If using FlexNet Report Designer, import the latest reporting package.

11. Download the current data libraries.

Thereafter, you can use the web interface to deploy inventory beacons, and establish rules for inventory collection. At each inventory beacon, you will also need to configure the beacon and populate the password store with credentials if you are allowing direct inventory gathering.

The following table summarizes which of the tasks in the installation details (from the following chapter) apply to which servers in a multi-server implementation (servers are identified and discussed in *Prerequisites and Downloads* on page 7). A blank means not required; a Y means required, and Y1, Y2, Y3 and Y4 mean required in that order. When the functionality of several of these columns is rolled up in smaller implementations, then a Y in any relevant column means to perform the task on the server covering that functionality. The breakdown of servers in the columns is:

- Web - web application server

- BSS - batch scheduling server

- Btch - batch server, controlled by the above (the batch scheduling server and batch server functionality may be rolled up into a single batch server, in which case it is sometimes called a reconciliation server)

- Inv - inventory server

- App svr - the application server (when all of the above are combined on a single server, in which case a **Y** in any of the four columns means perform the task on your single server)

- DBSvr - database server

- CSvr - Cognos server, if you choose to implement trend reporting

- IB - inventory beacon.

Tasks per server:

Tasks/Server:	App svr: Web	App svr: BSS	App svr: Btch	App svr: Inv	DBSvr	CSvr	IB
Admin acct	Y	Y	Y	Y			Y
Service acct	Y	Y	Y	Y	Y		Y
DBA acct					Y		
Patch .NET	Y	Y	Y	Y			
Configure IIS	Y	Y	Y	Y			
Disable WebDAV				Y			Y
MS ADE (for Excel imports)		Y	Y				Y
Create databases					Y		
Authorize Service acct	Y	Y	Y	Y			
Install web interface	Y						
Install inventory server				Y			
Install batch server		Y	Y				
Install Report Designer						Y	
PowerShell configuration scripts	Y1	Y2	Y3	Y4			
Product activation		Y					
Populate libraries		Y					
Import trend reporting package (Cognos)						Y	
Set up access rights	Y						
Deploy/configure inventory beacon(s)		Y					Y
Populate password store							Y

The installation processes for each server are fully documented in the following sections. This table summarizes which *custom* installation options are required for different server configurations. For each installation type, ensure that *only* the options listed are selected when you take the custom installation path.

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Tip • *You never need to install the batch scheduling server and the batch server on the same machine. The batch scheduling server includes its own batch server functionality. It is installed first as part of your central server infrastructure, allowing for both the scheduling and the processing of batch jobs. At any time, you can separately install additional child batch servers, and the batch scheduling server schedules all its children.*

Installation type	Select these custom installation options
Single (full) application server	• **Inventory server** • **Web application server** • **Batch scheduling server** 💡 *Tip •* *This is the same configuration as if you step straight through the standard installer without taking the custom installation path.*
A stand-alone web application server	• **Web application server**
A processing server (combining the inventory server and the batch scheduling server)	• **Inventory server** • **Batch scheduling server**
A stand-alone inventory server	• **Inventory server**
The first separate batch processing machine, which must be the batch scheduling server	• **Batch scheduling server**
Additional child batch processing machines	• **Batch server**

Prerequisites and Downloads

Design

Determine whether to implement a single server or multi-server solution, based on projected scaling. Please refer to the following diagram, where each blue box represents a potentially separate server, and where all are given the names referenced throughout this document.

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Note • Both the inventory server (processing server, or application server in a single-server implementation) and the inventory beacon(s) are expected to be members of Active Directory domains. (For test environments, consultants may see article 000017145 How to run FlexNet Manager Suite processing server on a workgroup computer.) Where you have only a single batch server (also known as a reconciliation server), this is not required to be a member of an Active Directory domain (although it may be). If you split this server into a master batch scheduling server and additional, separate batch servers, the Microsoft messaging technology requires a common account which is much simpler to provide if all these servers are members of the Active Directory domain. For this reason, domain membership is recommended, and assumed in this document.

There are six different kinds of server functionality in FlexNet Manager Suite. Your implementation may merge all this functionality onto a few servers; or for very large implementations, you may need six or more separate (virtual or physical) servers. In all cases, it is important to understand the functionality of these separate components that make up a working system:

- At least one inventory beacon, and typically more for a complex infrastructure

Tip • An inventory beacon should be installed on the same server as the batch scheduling server (defined shortly).

- An inventory server, which can also be duplicated across multiple servers if you are gathering FlexNet inventory for many tens of thousands of devices (see below)

- A batch server (also known as a reconciliation server) that imports third-party inventory, integrates FlexNet inventory, incorporates business-related information, and reconciles everything to calculate your license position

Note • Massive implementations may spread this load across multiple batch servers, in which case exactly one is the 'parent' or batch scheduling server that controls the load sharing. Here, 'massive implementations' means those with over a million devices returning inventory, or with unusually high batch processing loads. Most likely you need only a single reconciliation server here.

- The database server (where the five underlying databases may also be split across separate database servers if required)

- The web application server that handles presentation of the interface

- A server for the business reporting option (powered by Cognos), where applicable. (This server may be shared between FlexNet Manager Suite and FlexNet Manager for Engineering Applications.)

Tip • Currently the Cognos content store requires a SQL Server installation no later than 2012.

All system servers require a 64-bit operating system. The database server (alone) may have a 32-bit operating system, but a 64-bit operating system is recommended.

In more moderately-sized implementations (the vast majority), a typical implementation might have a separate database server and Cognos server, and combine the remaining three central functions as a single "application server", as shown in the diagram. As scaling dictates, you can combine or separate the web application server, the batch server, and the inventory server in any combination required. The logical separation of presentation from processing need not drive hardware requirements. Scaling considerations may include the following:

• Typically the first candidate for replication is the inventory beacon. This is often driven by network considerations as much as by simple scaling considerations.

• If your system manages more than 50,000 devices reporting FlexNet inventory alone (ignoring for the moment inventory through other third-party tools), the inventory server should be separated onto its own device. You can expect to duplicate a separate inventory server for (roughly) every 50,000 devices reporting FlexNet inventory.

• If you manage inventory from more than 100,000 devices, the batch server (or reconciliation server) may be separated from the web application server and installed separately.

• If you manage in the order of a million inventory devices, the batch server itself may be split into multiple batch servers, controlled by one batch scheduling server that also shares in the processing load.
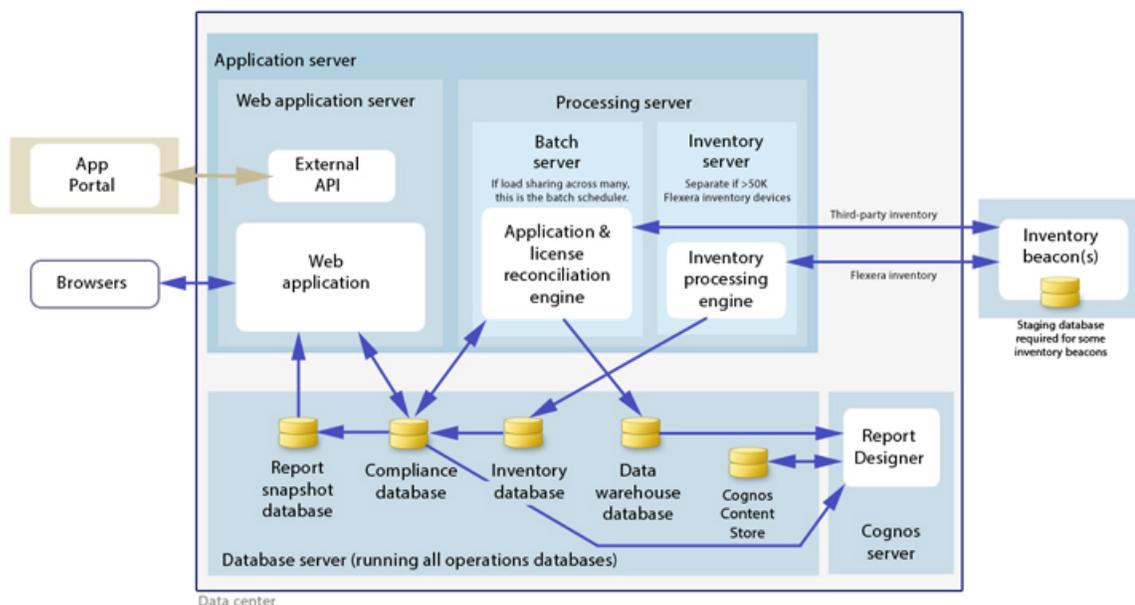
Tip • *When you implement your web application server as a separate server, or implement multiple batch servers, you must configure one or two network shares that all can access to share uploaded data between them. The shared drives are identified during the installation process. For details, see Configure Network Shares on page 18.*

Some of the inventory adapters (such as the XenApp adapter, ADDM adapter, and HPUD adapter) require a staging database. This may be installed on any convenient SQL Server, with one of the options being your central

database server hosting your compliance database. Another option is to install the staging database on an appropriate inventory beacon. Decide on the location of this staging database as part of your design.

Prepare a block diagram of the actual servers for your implementation. Don't forget the inventory beacons you intend to deploy. Label each block in your diagram with:

- The server type, either 'inventory beacon' or as named in the diagram above (for ease of reference in following instructions)

- The actual server name and IP address

- Which web server will be installed on each of these hosts.

License

Locate your FlexNet license key, emailed to you from Flexera Software as part of the order confirmation process, and have it ready for use in the following process.

Accounts

For installation and operation, FlexNet Manager Suite requires several different sets of account privileges. While it is possible to load a single account with all these privileges, this is typically unacceptable in secure environments, which have a separation of concerns between interactive login accounts for installation and maintenance, and operational service accounts (usually with long-term and closely-guarded credentials).

The following table lists the various privilege levels, their purpose within FlexNet Manager Suite, and a suggested set of Active Directory accounts allowing for that separation of concerns.

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Tip • Where privileges are controlled by Active Directory Group Policy Objects (GPOs), ensure that the accounts and group(s) are added to the appropriate GPO settings prior to attempting installation. The recommended practice when creating the databases is to assign the installing administrator account (`fnms-admin`) and the service account (`svc-flexnet`) to an Active Directory group (suggested: `FNMS Administrators`) in order to grant them `db_owner` privileges; so you may choose to manage other rights through that group. Also note that these accounts and their privileges must remain active for the lifetime of the FlexNet Manager Suite environment.

Privileges	Required on	Purpose
Database administration privileges — suggested AD account: `db-admin` (Typically this is an existing database administrator within your enterprise.)		
Database administrator, with db_owner rights on all databases related to FlexNet Manager Suite.	Database servers	Provides the following accounts with database access rights as described.
Member of the **public** database role in the `model` database on the database server.	Database servers	Required so that the account can run scripts that check the database compatibility level.
SELECT rights to the `dbo.sysjobs` and	Database servers	Only required if an existing installation of FlexNet Manager

Privileges	Required on	Purpose
`dbo.sysjobsteps` tables in the **msdb** database.		Suite 2015 or earlier is being migrated to a later release.
Installing administrator privileges — suggested AD account: `fnms-admin` (Account details must be made available to `db-admin`.)		
Local administrator	• Central application server(s) (including, where separated, web application server, batch scheduling server, any separate batch servers, and inventory server); • All inventory beacons.	Installs and configures software on all servers. On inventory beacons, interactive login to the inventory beacon interface also requires local administrator privileges (that is, on inventory beacons this is an operational account as well as being required for setup).
Set the execution policy for, and execute, PowerShell scripts	Central application server(s) (including, where separated, web application server, batch scheduling server, any separate batch servers, and inventory server).	PowerShell scripts are used to complete the configuration of central servers during implementation.
Create tasks in Windows Task Scheduler	• Central application server(s) (including, where separated, web application server, batch scheduling server, any separate batch servers, and inventory server); • All inventory beacons.	Runs PowerShell scripts during installation that create scheduled tasks.
Internet connection to `https://flexerasoftware.flexnetoperations.com`	A central server (with network access to all other central application servers in a multi-server implementation).	Retrieve product downloads and licenses for implementation.
Internet connection to `http://www.managesoft.com` (Typically granted through membership in the `FNMS Administrators` security group in Active Directory.)	All central batch servers including the batch scheduling server (or, in smaller implementations, the processing server or application server).	Maintenance or unscheduled collection of the Application Recognition Library, the SKU libraries, and the Product Use Right Libraries.
Service account privileges — suggested AD account: `svc-flexnet` (Account details must be made available to `db-admin`.)		
Logon as a Service, and run all FlexNet services	• Central application server(s) (including, where separated, web application server, batch	Runs all system operations, including batch services and web services.

Privileges	Required on	Purpose
💡 *Tip • Admin access for this account is convenient, and typically granted through membership in the `FNMS Administrators` security group in Active Directory; otherwise read, write, and execute permissions are required on all folders containing FlexNet installations, FlexNet data, and FlexNet log files.*	scheduling server, any separate batch servers, and inventory server); • All inventory beacons.	🔲 *Important • In a multi-server implementation, the same service account must be used on all central servers. This is required for proper functioning of Microsoft Message Queueing between the servers. (A distinct service account may be used for inventory beacons.)*
Logon as a Batch Job	• Central application server(s) (including, where separated, web application server, batch scheduling server, any separate batch servers, and inventory server); • All inventory beacons.	When the service account runs a batch job, this setting means the login is not an interactive user. 💡 *Tip • This is particularly important on the batch scheduling server (for authorization details, see Authorize the Service Account on page 25).*
Run scheduled tasks as a service account.	• Central application server(s) (including, where separated, web application server, batch scheduling server, any separate batch servers, and inventory server); • All inventory beacons.	Runs scheduled tasks within normal operations.
Run IIS application pools as a service account	• Central application server(s) (including, where separated, web application server, batch scheduling server, any separate batch servers, and inventory server); • Those inventory beacons that are running IIS	Normal operations
Internet connection to `http://www.managesoft.com`	All central batch servers including the batch scheduling server (or,	Scheduled collection of the Application Recognition Library, the

Privileges	Required on	Purpose
(Typically granted through membership in the `FNMS Administrators` security group in Active Directory.)	in smaller implementations, the processing server or application server).	SKU libraries, and the Product Use Right Libraries.

Tip • While the table above lists a single service account `svc-flexnet` on your application server(s) and inventory beacons, this may be adequate only in environments where security is not a significant concern. For greater security, consider a separate service account for each inventory beacon that has the permissions listed above on the inventory beacon, but no permissions on your central application server(s).

Note • At implementation time, all services are configured with the correct password using the PowerShell scripts provided. If at any time the password on the service account is forced to change, the services will cease to operate. To ensure service continuity, you may either (a) allow the service account password to never expire (as normal for Windows service accounts), where permitted by your corporate policies; or (b) review the accounts listed in Password Maintenance on page 49.

In addition to the three core accounts described in the table, your implementation may require additional accounts for special circumstances.

For example, if you are using adapters to connect to other systems and import data, you need appropriate accounts. For details, see documentation for the adapters you need.

Another example is the case where you will be setting up an inventory beacon outside your central domain (such as an Internet-facing beacon to collect inventory from traveling laptops). For such a case, consider creating an additional account that is recognized, but has minimal privileges, within your central domain. This account manages the transfer of information between your inventory/application server and the inventory beacon. It has only one requirement within the central domain: the ability to use the HTTP or HTTPS protocol to transfer data to/from your central inventory (or application) server. The name and password for this account are entered directly in the inventory beacon interface, along with the URI it will access.

Database Instance(s)

All databases for this system, including `tempdb`, require the correct collation sequence, both case insensitive and accent sensitive. This means that they should be installed on one or more database instances that have this as the default collation sequence. For details about checking for a collation sequence ending with the codes `_CI_AS`, see Create Databases on page 20.

Patch

On the computers that will become your inventory beacons, PowerShell must be version 3.0 or later. For details, see Upgrade PowerShell on Inventory Beacons on page 17.

If you are running .NET 4.0, ensure that the following patches are installed on the application server (or on the web application server, batch scheduling server, and inventory server in a multi-server implementation):

- Update 4.0.3 for Microsoft .NET Framework 4 Runtime Update (KB2600211), from *http://www.microsoft.com/ en-us/download/details.aspx?id=29053*

- Update for Microsoft .NET Framework 4 on Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7, and Windows 2008 R2 - KB2836939, from *http://www.microsoft.com/en-us/ download/details.aspx?id=39257*

Tip • These patches are not required if you are running .NET 4.5, such as supplied with Microsoft Windows Server 2012.

On all inventory beacons running .NET 4.0 , the same two updates are also required. In addition to those two, inventory beacons (including one optionally co-installed with your batch scheduling server) require this third patch: Update for the .NET Framework 4, from http://support.microsoft.com/kb/2468871, and downloadable from *http://www.microsoft.com/en-us/download/details.aspx?id=3556*.

Tip • The installer for inventory beacons will not run until this patch has been applied on the beacon server running Microsoft .NET Framework 4. (As before, the patch is not required if the version of Microsoft .NET Framework is 4.5 or later.)

Configure IIS

Wherever IIS is in use within this system, it must be ready to use ASP.NET 4.0.

Note • Your IIS implementation must include both:

- ***ASP.NET** in **Application Development***

- ***Windows Authentication** in **Security***.

The other requirements depend on the version of your Windows Server operating system:

- On Windows Server 2012, if ASP.NET 4.5 is already installed, the configuration change is not required and you can skip to the next section; but if not, follow steps under "To install IIS and ASP.NET modules on Windows Server 2012 using the UI" in *http://technet.microsoft.com/en-us/library/hh831475.aspx#InstallIIS*.

- On Windows Server 2008, if ASP.NET 4.5 is installed as an upgrade, complete the process in this section, using the 4.0 folder as described (this folder persists after the upgrade).

On your central server(s), IIS is required. On any inventory beacon that sends system landscape data to SAP, it is also required. On other inventory beacons, IIS is an option, with a built-in web service as an alternative (discussed later). Complete the following steps on applicable inventory beacons, and on the application server (or on all of the web application server, batch scheduling server, and inventory server in a multi-server implementation):

1. Open a command line window (for example, **Start** > search for cmd > run cmd.exe).

2. Enter `cd %SystemRoot%\Microsoft.NET\Framework\v4.0.30319` (this folder is available only after you have correctly installed Microsoft .NET Framework 4.0).

3. Install ASP.NET (which also registers ASP.NET with IIS), with the following command:

```
aspnet_regiis.exe -ir -enable
```

4. When the installation is completed, stop and restart IIS to ensure that it reads the ASP.NET registration:

```
iisreset
```

5. `Exit` to close the command line window.

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Tip • Further configuration of IIS is handled through the PowerShell scripts for configuration, described later.

No WebDAV

On the inventory server (or application server in a single server implementation), and on all inventory beacons, WebDAV must be disabled (when IIS is in use). Example:

1. Find the IIS settings. For example, on Windows Server 2008 R2, open Server Manager (**Start** > **Administrative Tools** > **Server Manager**). In the hierarchy (on the left), expand **Roles**, then **Web Server (IIS)**, and select **Internet Information Services (IIS) Manager**.

2. In the work pane that opens, expand **Sites**, and select **Default Web Site**.

3. In the **Home** pane for this site, in the **IIS** group, locate **WebDAV Authoring Rules**.

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   Tip • If it is not present, it is likely that WebDAV is not installed on this server, and your mission is complete.

4. Right-click the icon, and select **Open Feature**. A pane opens for **WebDAV Authoring Rules**.

5. On the right, in the **Actions** group, there is an option to enable or disable WebDAV.

   • If the link currently says **Enable WebDAV**, do nothing, because your mission is complete.

   • If the link current says **Disable WebDAV**, click the link.

6. Click **OK** to close all applicable dialogs.

Browser

When Internet Explorer is used on a server-based operating system to access FlexNet Manager Suite after setup is complete (for example, if you are testing from your central application server, or your inventory beacon has a server operating system), the IE enhanced security provisions must be turned off on that server. Detailed instructions are included in the first help topic available after setup. (Alternatively, use a different browser.)

Drivers

If you will ever import other data from an Excel spreadsheet in `.xlsx` format (whether using provided templates or adapters built in the Business Adapter Studio), you must install a 32-bit version of Microsoft Access Database Engine both on every batch server including the batch scheduling server (or whichever server hosts this functionality), and on every inventory beacon that will perform these spreadsheet imports. The particular release is not important: for example, Microsoft Access Database Engine 2010-32 is adequate. Drivers are supplied within the Microsoft Access Database Engine. (*Export* of data from the system into spreadsheets does not require this: only import has this prerequisite.)

Tip • This installation is not required if you import spreadsheets exclusively in the earlier `.xls` format; but be aware that this older format limits each spreadsheet to about 65,000 records/rows. CSV (comma-separated values) file imports also do not require the installation of this specific driver.

Important • Only the 32-bit version is supported by the Business Importer mechanism, and this version is incompatible with the 64-bit version of Microsoft Office products installed on the same machine. This means that, when you need imports in `.xslx` format, 64-bit Office cannot be installed on the central batch server (or application server), or on applicable inventory beacons. Naturally, Office documents including spreadsheets prepared on other machines running 64-bit Office can successfully be imported. The limitation is only on co-installation on the same computers.

Log in

On the application server, and using the account details emailed to you with your order confirmation from Flexera Software, login to the Product and License Center at *https://flexerasoftware.flexnetoperations.com/*. From the list of products, select FlexNet Manager Platform, and again in the following page to differentiate elements of the Suite, if applicable. Finally, click through the link for FlexNet Manager Suite 2015 to access the downloads.

Check

Download and check the release notes for the requirements for the Windows Server computer(s) on which you will install FlexNet Manager Suite 2015 R2. For example, the minimum database release is Microsoft SQL Server 2008.

Download

Download the installer through the FlexNet Manager Suite 2015 R2 Installer.zip link, saving the archive to a convenient location accessible across your network from all the servers (web application server, batch scheduling server, and inventory server; or as combined) in your design. If you will also install the Business Adapter Studio in connected mode (that is, with direct access to your operations databases), also download `Business Adapter Studio 2015 R2.zip` to the same location.

Report Designer

If your design includes FlexNet Report Designer (powered by Cognos), also download:

- Report Designer Package - Single Tenant (`FlexNetManagerPlatformReportsAndDashboard.zip`) — required even if you already have Report Designer implemented with FlexNet Manager for Engineering Applications.

- Report Designer Installer (`FlexNet Report Designer 2014 R2.exe`) — note that this installer is forward compatible with the 2015 R2 release of FlexNet Manager Suite.

- Report Designer Product Documentation (`ReportDesigner152_FullDocumentationSet.zip`).

Upgrade PowerShell on Inventory Beacons

PowerShell is used both as part of the installation, and for operation of inventory beacons after installation.

The minimum requirement on inventory beacons is PowerShell 3.0.

You may choose to upgrade PowerShell to version 4.0, but be aware that this release has a prerequisite of .NET Framework 4.5. In summary, you may chose either of the following combinations:

- .NET 4.0, with the *three* patches required for inventory beacons installed (as in *Prerequisites and Downloads* on page 7), and PowerShell 3.0

- .NET 4.5 (which requires no patches), and PowerShell 4.0.

Use this procedure to check the version installed on your candidate computer before installing an inventory beacon.

1. Within Windows PowerShell, run `$PSVersionTable.PSVersion`.

   This produces output similar to the following:

   ```
   Major      Minor      Build    Revision
   -----      -----      -----    --------
   3            0          -1         -1
   ```

2. If the `Major` value is less than 3, download your chosen version and install it.

   For example:

   - For PowerShell 3.0, see *http://www.microsoft.com/en-us/download/details.aspx?id=34595*; and after installation, continue with the patches below.

   - For PowerShell 4.0, see *https://www.microsoft.com/en-us/download/details.aspx?id=40855*. When this is installed, you have completed this procedure, as patches are not required for .NET 4.5.

3. If this inventory beacon is running .NET version 4, ensure that these three patches are installed (you may have completed this earlier, under *Prerequisites and Downloads* on page 7):

   - Update 4.0.3 for Microsoft .NET Framework 4 Runtime Update (KB2600211), from *http://www.microsoft.com/en-us/download/details.aspx?id=29053*

   - Update for Microsoft .NET Framework 4 on Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7, and Windows 2008 R2 - KB2836939, from *http://www.microsoft.com/en-us/download/details.aspx?id=39257*

   - Update for the .NET Framework 4, from http://support.microsoft.com/kb/2468871, and downloadable from *http://www.microsoft.com/en-us/download/details.aspx?id=3556*.

Configure Network Shares

If you have not already done so, use Windows Explorer to configure the network share drives used by all your central servers. There are two such shares in a fully-scaled up implementation:

* The data import directory for inventory collected through FlexNet inventory agent (default value: `C:\ProgramData\Flexera Software\FlexNet Manager Platform\DataImport\`). This share is required as soon as you install the web application server on a separate server; or as soon as you separate the batch server (reconciliation server) into a distinct batch scheduling server with one or more child batch servers. It may be on any of your central servers, as convenient in your implementation; and it may be on any drive and any file path.

* The staging folder for inventory beacon data upload and download (default value: `C:\ProgramData\Flexera Software\Beacon`). This second share is only required when you separate the batch server (reconciliation server) into a distinct batch scheduling server with one or more child batch servers. (On the other hand, if you have only a single batch server, the folder is on this server, and no sharing is required.) Once again, it may be on any drive and any file path; but a share (or folder) on the batch scheduling server is recommended, to optimize performance.

You may implement these shares as you see fit.

For added security, you may set up these shares so that they are available to the minimum number of accounts (rather than open to all). From *Identify (or Set Up) Accounts*, you are already acquainted with the Active Directory security group `FNMS Administrators`, which minimally contains the operational service account (suggested: `svc-flexnet`), the installing administrator account (suggested: `fnms-admin`), and any accounts with interactive logins to any of your central servers. If you wish, you can restrict these network shares so that they are open only to members of `FNMS Administrators`, with the group providing full control for both daily operations and any required maintenance/troubleshooting.

During the installation process using the InstallShield Wizard, you identify these share drives, so keep a note now of the locations you have selected.

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Installation Details

Topics:

Please work through the following sections *in order*. The database must be installed first, and thereafter for a multi-server installation, the order is important: the batch server/reconciliation server (or, where this is split into multiples, the batch scheduling server followed by its dependent batch servers) must be installed last in this set, as the scripts here finalize account details across all the servers:

1. The web application server

2. The inventory server(s)

3. The batch server/reconciliation server.

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Important • *It is critical that you have attended to all the matters raised in* *before attempting installation.*

Create Databases

FlexNet Manager Suite uses a number of separate databases. While scripts are provided, it is typical that these will be inspected and executed by a database administrator (DBA). Create the databases in the order shown below: first the inventory collection database, then the compliance operations database, and so on.

Take note of all the database names you create with the `-d` parameter in the following steps. You need the names later (if database setup is done by a separate DBA, the database names must be handed off to the installing administrator). While it is possible to rename the databases, using the default names makes it easier to follow the rest of the documented processes.

Important • All accounts that will log in directly to (any part of) the application server to use FlexNet Manager Suite (excluding access through the web interface) must have `db_owner` permissions on all components of the operations databases: compliance data, warehouse data, snapshot data, and inventory data. A suggested method is to create either a local or Active Directory security group (such as `FNMS Administrators`) and add all such accounts to this group. Then you can, for example, set these permissions by opening each database in Microsoft SQL Server Management Studio, and granting `db_owner` privileges to the security group. The procedures are detailed in the topics covering database creation. Accounts to list in the security group minimally include:

- *The operational service account (suggested: `svc-flexnet`)*

- *The installing administrator account (suggested: `fnms-admin`)*

- *Any operational account needing to log in to a central inventory beacon installed on your batch scheduling server (remember that, since the inventory beacon requires administrator privileges to run, this account is both a local administrator on the batch scheduling server and a `db_owner`)*

- *Any future back-up administrator accounts needed for the application server.*

After the first step, the rest of this procedure (creating the databases) must be completed using a database administrator account (suggestion: `db-admin`, and see the required privileges in *Prerequisites and Downloads* on page 7).

Tip • While databases are being created, you can start installing the central application servers in parallel. There are no interdependencies until you start running the PowerShell configuration scripts.

1. Create a security group (suggested: `FNMS Administrators`), and (optionally) add to it all accounts directly logging into the central application server (or you can add accounts later).

2. In SQL Server Management Studio, ensure that the AD security group (suggested: `FNMS Administrators`) has a secure login:

    a) Under **Security** >**Logins**, Create a new login.
       The **Select User, Service Account or Group** dialog appears.
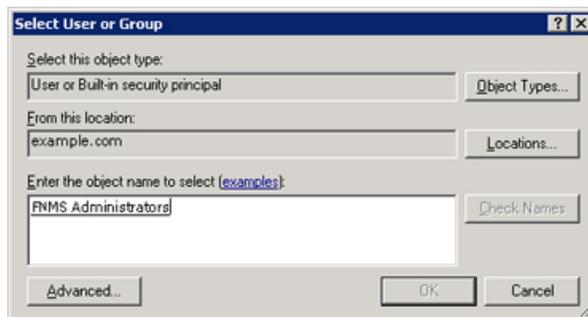
b) Use the **Object Types...** button to ensure that `User, Group, or Built-in security principal` is selected as the object type.

c) Use the **Locations...** button to select your Active Directory domain.

d) As the object name, enter the name of your security group (suggested: `FNMS Administrators`), and use **Check Names** to validate that the group name is found.

e) Click **OK**.
The newly added group is visible under the `Security > Logins` node. (You will use this group after the creation of each database.)
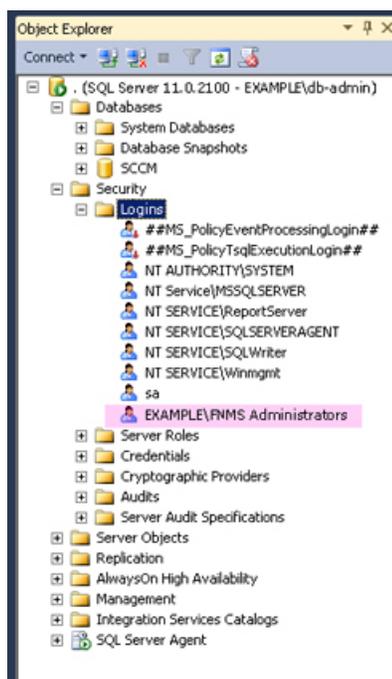
3. Ensure that the target database instance is set for case-insensitive and accent-sensitive collations (as required by all databases in this system, including the tempdb). To check the collation settings:

a) In SQL Server Management Studio, locate the SQL Server instance in the **Object Explorer** pane.

b) Right-click the server, and select **Properties** from the context menu.

c) On the server **Properties** dialog, select the **General** tab, and check the current collation sequence.

If the collation sequence ends with the codes `_CI_AS`, you may proceed with the installation. Otherwise discuss the collation requirements with your database authorities.

4. Create the database for FlexNet native inventory collection.

☞

Remember • If you plan to collect both inventory data and compliance data in a single database, use the same `-d FNMP` name parameter for this and the compliance databases; or for a separate inventory database (recommended), use a different name as shown below.

🔆

Tip • To avoid typos, you may want to copy all five of the following command lines into your ASCII text editor, globally search for and replace the placeholders DBserver-name\instance name with the name of your SQL Server and your database instance (where that is not the default instance), and then copy/paste each modified command line when required.

⚠

Important • Be very careful with copy and paste. Some tools "helpfully" convert a pasted minus (dash, or hyphen) character to something else, perhaps from an extended character set. Such substitutions will cause the command line to fail.

a) On the database server (or the application server for a single-server implementation), open a command prompt.

🔆

*Tip • If your console window is in **QuickEdit** mode (visible in the **Properties** for the window), simply clicking in the window when it already has focus puts it into Mark or Select mode. In such a mode, a process that is writing to the window is paused, awaiting your input. Beware of unintentionally pausing database migration by extra clicking in this command prompt. A process that has been paused in this way is resumed when the window already has focus and you press any key.*

b) Navigate in the unzipped archive to the `FlexNet Manager Suite\Database\Normal\FlexNet Manager Platform` folder. (The database creation scripts can be run from a mapped network drive.)

c) Execute the following (replacing the placeholders *DBserver-name\instance name* with the name of your SQL Server and your database instance):

🗒

Note • *The command-line switches (as usual), and the `WindowsNT` argument, are case sensitive.*

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMSInventory -i
   InventoryManagerDatabaseCreation.xml
```

Wait for completion before proceeding.

d) Open this database in Microsoft SQL Server Management Studio, expose the `Security > Users` node, right-click and choose to create a new user.

e) In the **Database User - New** dialog, set the **User type** to `SQL user with login`, and enter a **User name** (for example, call it `FNMS Administrators` as well).

f) Next to the **Login name** field, click the ellipsis (**...**) button, and use the **Select Login** dialog to select your Active Directory security group (suggested: `FNMS Administrators`). Click **OK** to close both dialogs.

g) For your newly-added user, right-click and select the properties, and select the `Membership` page. Check the `db_owner` role, and click **OK** .

5. Create the operations database for compliance data (a two-part creation process):

a) Still in the Command Prompt window on the database server, using the administrative account (`db-admin`), and in the same folder of the unzipped archive, execute the following (replacing the placeholders *DBserver-name\instance name* with the name of your SQL Server and your database instance, and paying attention to case sensitivity):
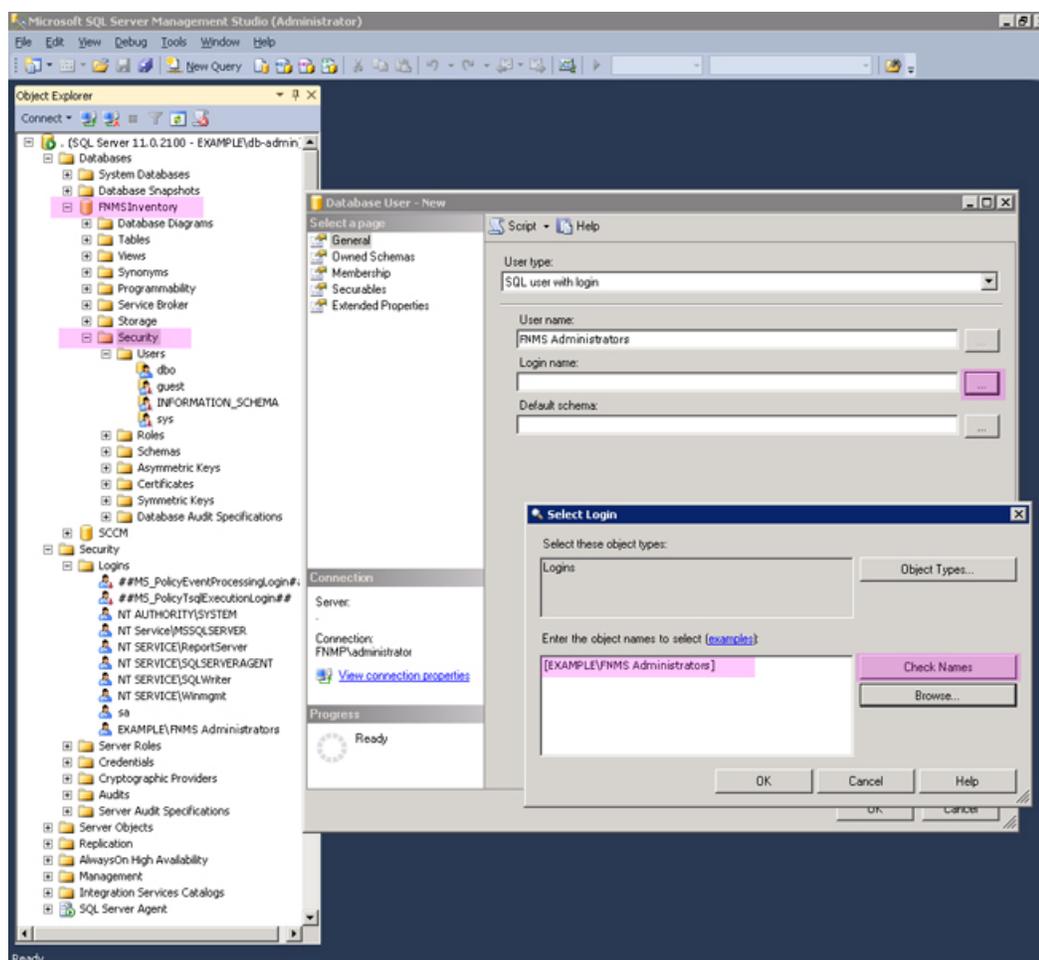
```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMSCompliance -i
  ManageSoftDatabaseCreation.xml
```

(and wait for completion).

b) Execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMSCompliance -i
  ComplianceDatabaseCreation.xml
```

c) Repeat the steps outlined for the inventory database to grant `db_owner` privileges to the security group (suggested: `FNMS Administrators`).

6. Create a data warehouse database (used for trend analysis, some product reports, and Cognos-based reporting):

a) In the same archive folder, execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMSDataWarehouse -i
  DataWarehouseCreation.xml
```

b) Repeat the steps outlined for the previous databases to grant `db_owner` privileges to the security group (suggested: `FNMS Administrators`).

7. Create a snapshot database (used for performance optimization):

a) In the same archive folder, execute:

```
mgsDatabaseCreate -a WindowsNT -s DBserver-name\instance name -d FNMSSnapshot -i
  SnapshotDatabaseCreation.xml
```

b) Repeat the steps outlined for the previous databases to grant `db_owner` privileges to the security group (suggested: `FNMS Administrators`).

8. Check all database log files for any errors before proceeding with any installation of FlexNet Manager Suite software.

9. Close the command window.

10. 🔅

Tip • *Currently the Cognos content store requires a SQL Server installation no later than 2012. This is expected to change by late 2015.*

If you are also implementing Flexera Report Designer, you need to create the content store database. The content store is a Microsoft SQL Server database used to store information about reporting models, folders, reports, and saved results, which are required by Flexnet Report Designer. If required, create the content store database now:

a) If your content store is on a separate database server, ensure that (like all the other databases for this system) it uses a case insensitive, accent sensitive collation sequence, and mixed authentication (Windows

and SQL Server) instead of Windows-only authentication. In addition, enable the TCP/IP protocol, which is required by Cognos to access the data it needs to populate reports.

b) Open Microsoft SQL Server Management Studio, right-click **Databases** and select **New Database...**.

c) Provide an appropriate name for your database (such as `contentstore`).

d) Configure the initial database settings (file size, location, and the like) as appropriate.

This database is typically very small, in the order of 12 MB, with potential growth depending on how many reports you store.

e) Expand **Security**, right-click **Schemas** and select **New Schema...**.

f) Specify the **Schema name**, and click **OK**.

Suggestion: `FlexNetReportDesignerSchema`

g) Under **Security**, right-click **Logins** and select **New Login...**.

h) Specify the login name for Report Designer to access the content store.

Suggestion: `FlexNetReportDesigner`

i) Select **SQL Server authentication** and enter the appropriate password in the **Password** and **Confirm password** fields.

j) Clear **Enforce password policy**.

While saving the password, this clears all three password policy check boxes.

k) Click **OK**.

l) With the same database selected, under **Security**, right-click **Users** and select **New User...**.

m) Specify a name for the database user in the **User name** field.

n) Use the **Login name** field to browse and select the account that you created in step *10.g* on page 25 above.

o) Use the **Default schema** field to browse and select the schema that you created in step *10.f* on page 25.

p) In the **Owned Schemas** list, select the same schema as specified in **Default schema**.

q) In the **Role Members** list, select `db_datareader`, `db_datawriter`, and `db_ddladmin`.

r) Click **OK**.

Finally, if you have not already done so, don't forget the add the necessary accounts, including the operational service account (suggested: `svc-flexnet`) and the installing administrator account (suggested: `fnms-admin`), to the `FNMS Administrators` security group.

Authorize the Service Account

The account used to run processing services requires permission to run as a service. Prior to installing anything, perform this process on:

- Your batch scheduling server/reconciliation server (in a large-scale implementation with three or more servers)

- Your processing server (in a two server application implementation)

- Your application server (in a single server implementation)

- Any independent batch servers.

Tip • You should use a single account (that is, the same Active Directory user) for communications between the batch scheduling server and any child batch servers. If you do not do this, you instead need to modify permissions on the Microsoft Message Queuing configuration on the batch scheduling server (which modifications are beyond the scope of this document). Assuming use of a single account, it is most convenient if this is the same service account used on all your central server(s).

1. On the appropriate server, log in as an administrator (suggested: `fnms-admin`).

2. Go to:

   - On Windows Server 2012, **Start** > **Administrative Tools** > **Local Security Policy**

   - On earlier releases of Windows Server, **Start** > **All Programs** > **Administrative Tools** > **Local Security Policy**.

3. Select the **Local Policies** node, and choose **User Rights Assignment**.

4. Open the policy `Log on as a service`, and add the service account (example: `svc-flexnet`).

5. Open the policy `Log on as a batch job`, and add the service account (example: `svc-flexnet`).

6. Click **OK**.

Tip • A Microsoft error dialog `Security Templates - An extended error has occurred. Failed to save Local Policy Database`. may appear. This error is described at http://support.microsoft.com/kb/2411938, and may safely be ignored.

Install the Web Interface

The web interface provides the user interface to manage your inventory and license position. Continue this process as administrator (`fnms-admin`) on either your

- application server (for a single server installation) or

- web application server (in a multi-server installation).

1. On the (web) application server, open Windows Explorer.

2. Copy the downloaded archive `FlexNet Manager Suite 2015 R2 Installer.zip` from your staging location to a convenient location on this server (such as `C:\temp`), and unzip it.

3. Navigate in the unzipped archive to the `FlexNet Manager Suite\Installers\FlexNet Manager Suite` folder.

4. Start (double-click) `setup.exe`.

Tip • *You must start the installation by running* `setup.exe`*, rather than running the MSI by any other means. The setup file also installs Visual C++ 2010 Redistributable (if it is not already present), which is a prerequisite for integration with FlexNet Manager for SAP Applications.*

5. Step through the installer until asked for the **Setup Type**, and do one of the following:

   • For a small, single server installation combining the web application, the inventory collection, and the batch processing functionality in one server, select the **Complete** option, and follow the instructions in the installation wizard to complete the standard installation.

   • For a multi-server installation, select the **Custom** installation path, and select the **Web application server** for this installation. (If this is the *only* functionality on this server, also ensure that **Inventory server**, **Batch scheduling server**, and **Batch server** are all deselected; but in fact you can combine most servers in the way that best suits your enterprise, so make the selection that matches your server plan, keeping in mind that the batch scheduling server and batch server are never installed together.)

   Take note of the installation location for future reference.

6. If this server includes the batch scheduling server functionality, you are prompted for the credentials used for batch processes. Be sure that the account you enter already has `Logon as a service` permission (see *Authorize the Service Account* on page 25).

7. When successful, close the installation wizard.

Install the Inventory Server

The inventory server processes all inventory collected (or augmented) by the FlexNet inventory agent.

In a single server implementation, this step is already completed and you should skip ahead to *Configure the System* on page 34.

For a multi-server implementation, continue this process as administrator (`fnms-admin`) on either your

• processing server (in a two server application installation)

• inventory server (in a three or more server application installation).

1. On the inventory (or processing) server, open Windows Explorer.

2. Copy the downloaded archive `FlexNet Manager Suite 2015 R2 Installer.zip` from your staging location to a convenient location on this server (such as `C:\temp`), and unzip it.

3. Navigate in the unzipped archive to the `FlexNet Manager Suite\Installers\FlexNet Manager Suite` folder.

4. Start (double-click) `setup.exe`.

💡

Tip • *You must start the installation by running* `setup.exe`, *rather than running the MSI by any other means. The setup file also installs Visual C++ 2010 Redistributable (if it is not already present), which is a prerequisite for integration with FlexNet Manager for SAP Applications.*

5. Select the **Custom** installation path, and do one of the following:

   • For a two server installation, now installing your processing server, select all of the **Inventory server** and the **Batch scheduling server** for this installation, and ensure that the **Web application server** is deselected (displaying a cross).

   • For an installation using three or more servers, now separately installing your inventory server, select only the **Inventory server** for this installation, ensuring that the other options are deselected.

   Take note of the installation location for future reference.

6. If this server includes the batch scheduling server functionality, you are prompted for the credentials used for batch processes. Be sure that the account you enter already has `Logon as a service` permission (see *Authorize the Service Account* on page 25).

7. When successful, close the installation wizard.

Install the Batch Server(s)

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Tip • *Massive implementations may spread the batch processing load across multiple batch servers, whose processing is controlled by the batch scheduling server (which itself also includes the batch server functionality and contributes to the batch processing effort). Installation of any batch server is identical; and for the batch scheduling server, the only difference is the choice selected in the custom installation as described below. You may follow this process for either the batch scheduling server or for any batch server.*

The batch scheduling server is the integration point that correlates all your entitlement records and your consumption revealed in inventory to work out your reconciled license position.

You do *not* need this process if you have either of:

• A single-server implementation combining the web application server, the batch scheduling server, and the inventory server in one; or

• A two-server application implementation where you have combined the batch server and inventory server functionality on one computer and kept the web application server as a second server.

In these two cases, this step is already completed and you should skip ahead to *Installing a Free-Standing Studio* on page 29.

For a three server implementation (or larger), continue this process as administrator (`fnms-admin`) on your batch scheduling server.

1. On the batch scheduling server (or, where applicable, a separate child batch server), open Windows Explorer.

2. Copy the downloaded archive `FlexNet Manager Suite 2015 R2 Installer.zip` from your staging location to a convenient location on this server (such as `C:\temp`), and unzip it.

3. Navigate in the unzipped archive to the `FlexNet Manager Suite\Installers\FlexNet Manager Suite` folder.

4. Start (double-click) `setup.exe`.

    Tip • You must start the installation by running `setup.exe`, rather than running the MSI by any other means. The setup file also installs Visual C++ 2010 Redistributable (if it is not already present), which is a prerequisite for integration with FlexNet Manager for SAP Applications.

5. Select the **Custom** installation path, and make one of the following choices:

For a single batch scheduling server that performs all your batch calculations and does not manage any further 'child' batch servers	Select only the **Batch scheduling server** for this installation (ensuring that the other options are deselected). *Tip • Do not also select the **Batch server** option. Remember that the installed batch scheduling server also includes the batch server functionality.*
For a batch scheduling server that performs some batch calculations, and also manages further batch processing on 'child' batch servers	As above, select only the **Batch scheduling server** for this installation (ensuring that the other options are deselected).
For a child batch server	Select only the **Batch server** (ensuring that the other options are deselected).

Take note of the installation location for future reference.

6. When asked to enter the credentials to be used for running batch processes, be sure that the account you enter already has `Logon as a service` permission (see *Authorize the Service Account* on page 25).

7. When successful, close the installation wizard.

Installing a Free-Standing Studio

You can install additional copies of the Business Adapter Studio.

There are two kinds of Studio. Adapters can be created or modified using either the Inventory Adapter Studio or Business Adapter Studio (each for its appropriate type of adapter). Each time that you install an inventory beacon, copies of each of the Business Adapter Studio and the Inventory Adapter Studio are installed ready for use on the

inventory beacon. These versions are configured exclusively for disconnected mode, where they cannot directly access your central database.

However, sometimes you want to work in connected mode, with direct access to your central database (for example, to write data into stages tables and manipulate it). For these cases:

- The Inventory Adapter Studio is also available on the web application server (or, in smaller implementations, the server providing that function). This works in connected mode.

- You can co-install an inventory beacon on your web application server. As always, this also installs the Business Adapter Studio, giving it (and adapters built there) additional privileges to access your central database in connected mode.

In addition, it is also possible to install a free-standing copy of the Business Adapter Studio (only) on your central application server. (If you have scaled up to several central servers, such as installation can be on whichever server suits you. The default location is indicated below.) Business adapters installed directly on your central server(s) operate in connected mode, with full access to your central database. Obviously, attempt this only if you are very confident and well informed about details of the database schema.

🔆

Tip • It is not possible to install addition free-standing copies of the Inventory Adapter Studio.

Start this procedure using a web browser on the server where you will install the Business Adapter Studio, or a computer that provides easy and fast network access from your central server.

1. Using the credentials supplied by Flexera Software with your order confirmation (or as renewed since), log into the Product and License Center at *https://flexerasoftware.flexnetoperations.com*.

2. On the first page, select `FlexNet Manager Platform`, and on the resulting second page, select the product again.

3. In the list of versions, click the product name for the version you are using (typically the most recent version).

4. In the list of components to download, select `Business Adapter Studio` *releaseNumber*`.zip`, and download and save it to a convenient location (such as `C:\Temp`).

5. In Windows Explorer, navigate to the downloaded archive, right-click, and choose **Extract All**.

6. Navigate into the unzipped archive, and double-click `setup.exe`, following the instructions in the installation wizard.

The Business Adapter Studio may be installed on any of your central servers (in a multi-server implementation). The installer assesses the installation paths, and installs itself in the installation folder of FlexNet Manager Suite. The defaults are as follows:

- The Business Adapter Studio executable: `BusinessImporterUI.exe`

- Default installation path (in connected mode on central server): `C:\Program Files (x86)\Flexera Software\FNMP Business Adapter Studio`

- No template file storage is required for the Business Adapter Studio in connected mode, as it validates the database schema directly. Your custom business adapters may be saved in the folder(s) of your choice.

When you have completed the remainder of your product installation, the Business Adapter Studio can be run from the Windows start menu on this server; and the Business Importer, which is also installed automatically with the Business Adapter Studio, is also available for execution on the command line. For details about the Business

Adapter Studio, see online help or the *FlexNet Manager Suite System Reference* PDF file; and for details about the Business Importer, see the *Using the FlexNet Business Importer* PDF file. Both PDF files are available through the title page of the online help.

Install FlexNet Report Designer

This section applies only if:

- Your implementation design includes trend-based reporting, and

- You do not already have FlexNet Report Designer installed with another product.

The FlexNet Report Designer installer installs the Cognos server and the Apache HTTP server to the designated host. The FlexNet Report Designer server is installed as a service. Therefore, the account used to install this component must have administrator permissions.

Make sure of the following points:

- The installing account must have administrative privileges.

- The server hosting FlexNet Report Designer must be accessible by its host name, rather than just its IP address. Do not use IP addresses anywhere in the FlexNet Report Designer settings.

1. Copy your downloaded `FlexNet Report Designer 2014 R2.exe` installer to the server where you will run Cognos and FlexNet Report Designer.

   This installer is forward compatible with the 2015 R2 release of FlexNet Manager Suite.

2. Double-click the executable to launch it.
   The **Introduction** panel appears.

3. Read through the introduction, then click **Next** to continue.
   The **License Agreement** panel is displayed.

4. Read the license agreement.

   - If you agree to be bound by its terms, select the **I accept the terms of the license agreement** radio button.

   - If you do not accept the terms of the license, you must stop the installation process. Do not proceed further in this case.

5. Click **Next**.
   The **Installation Folder** panel is displayed.

6. Specify the installation folder for the FlexNet Report Designer in the **Installation Folder** field.

   You can enter a path manually, or browse for a location using the **Choose...** button. If you make a mistake and wish to return the initial folder suggested by the installer, click the **Restore Default Folder** button.

7. Click **Next**.
   The **Apache Installer** panel is displayed.

8. Specify whether you want to install a new Apache server, or just use an existing installation. You can choose from the following options:

- **Install Apache with default settings** —Apache will be installed with the default settings for use with Cognos. Click **Next** to move to the **Cognos Settings: Dispatcher Port** panel (step *14* on page 32).

- **Install Apache with specified settings** —The installer will install Apache, but allows you to specify the gateway host name and port for the Apache instance. Click **Next** to display the **Apache Settings: Host Name and Port** panel (step *9* on page 32).

- **Use existing Apache installation with settings unchanged** —FlexNet Report Designer will use an existing Apache installation, along with its existing settings. Click **Next** to display the **Apache Settings: Location** panel (step *12* on page 32).

- **Use existing Apache installation with specified settings** —FlexNet Report Designer will use an existing Apache installation, but will allow you to specify the gateway host name and port. Click **Next** to move to the **Apache Settings: Host Name and Port** panel (step *9* on page 32).

9. In the **Apache Settings: Host Name and Port** panel, enter the name of your gateway server in the **Gateway hostname** field.

   The gateway server is the machine that will pass all requests from the people using the business reporting portal feature to Apache. If you want Apache to listen for requests at the specified port from any host, leave this field blank.

10. Enter the port you wish Apache to use in the **Gateway port** field.

    The default port is 8889.

11. Click **Next**:

    - If at step *8* on page 31 you chose the **Install Apache with default settings** option, the **Cognos Settings: Dispatcher Port** panel appears. Proceed to step *14* on page 32.

    - Otherwise, if you chose the **Use existing Apache installation with specified settings** option, the **Apache Settings: Location** panel appears to allow you to configure your Apache server.

12. In the **Apache Settings: Location** panel, if you already have an Apache installation present which you wish FlexNet Report Designer to use, use this panel to specify its location.

    You can enter a path manually, or browse for a location using the **Choose...** button. If you make a mistake and wish to return the initial folder suggested by the installer, click the **Restore Default Folder** button.

13. Click **Next**.
    The **Cognos Settings: Dispatcher Port** panel is displayed.

14. In the **Cognos Settings: Dispatcher Port** panel, specify the port that you want Cognos to use to communicate with FlexNet Manager Suite (and, optionally, FlexNet Manager for Engineering Applications).

    It is recommended that you use the default port (9300), unless already in use by some other application.

15. Click **Next**.
    The **Cognos Settings: Select Database Type** panel is displayed.

16. Choose SQL Server, and click **Next**.

    The content store database stores report metadata required by Cognos. Because FlexNet Report Designer communicates with FlexNet Manager Suite, SQL Server is required. The **Cognos Settings: Content Store Settings** panel appears.

17. Specify the location of, and *login credentials* for, your content store database.

*Important • It is critical that, for the **Content Store user name** field, you enter the **Login name** you created
for database access, and not the database user name associated with that login. If you use the incorrect user
name, the Cognos installer will silently fail in some of its tasks while reporting success.*

18. Click **Next**.
    The **Mail Server Settings** panel appears.

19. Specify the details of the mail server to be used with Cognos.
    A mail server will be required if you initiate the emailing of a report. Email is sent using SMTP.

20. Click **Next**.
    If the installer cannot establish a connection to the mail server, a warning is displayed. Revisit your mail server
    settings and try again. Otherwise, the **Product Authentication Information** panel appears.

21. This screen allows you to decide which FlexNet Manager applications will be used with this instance of
    FlexNet Report Designer. Select the **FlexNet Manager Platform** check box. Optionally, also select the **FlexNet
    Manager for Engineering Applications** check box, if you have an installation of that product as well.
    The FlexNet Report Designer will communicate with these products to determine whether operators have the
    right to view or modify associated reports.

    *Tip • Selecting the **FlexNet Manager Platform** option causes the installer to configure Apache to use
    Windows authentication. This means that when you access the business reporting portal, Apache will
    automatically check whether your domain account has the right to view or modify the reports and dashboard,
    without you needing to enter login details.*

22. Click **Next**.
    The **FlexNet Manager Platform Location** panel is displayed.

23. Provide the host name for your enterprise's FlexNet Manager Suite batch scheduling server, prefixed with the
    `http://` protocol.
    As usual, this may be simply the server name within the same domain, or a fully qualified name as required:

    ```
    http://ExampleServerName
    http://ExampleServerName.OurDomain.com
    ```

    The FlexNet Report Designer communicates with this server to authenticate operators attempting to access
    reports related to FlexNet Manager Suite.

    *Tip • In smaller implementations, the batch scheduling server is rolled up into the processing server. In a
    single server implementation, identify your application server.*

24. Click **Next**.

    • If you selected the **FlexNet Manager for Engineering Applications** check box, the **FlexNet Product
      Location** panel is displayed (next step).

    • Otherwise, the **Pre-Installation Summary** panel appears (proceed to 27 on page 34).

25. Provide the host name and port number for your enterprise's FlexNet Manager for Engineering Applications server. The FlexNet Report Designer communicates with this server to authenticate operators attempting to access reports related to FlexNet Manager for Engineering Applications.

    The FlexNet Report Designer communicates with this server to authenticate operators attempting to access reports related to FlexNet Manager for Engineering Applications.

26. Click **Next**.

    The **Pre-Installation Summary** panel appears.

27. Review the choices you made, and click **Previous** to move back through the wizard and make any amendments. Once all seems correct, click **Install** to begin the installation process.

    A progress bar will appear to illustrate the status of the installation. Once the installation is complete, click **Done** to close the wizard.

28. Configure the account under which the IBM Cognos web service will run.

    It is typical to use the service account previously configured (suggested: `svc-flexnet`) for this, which already has more than adequate access rights. If you are configuring a different account, on the `FNMPDatawarehouse` database, and on the compliance database (default database name: `FNMP`), this account requires read access, and execute permissions to run stored procedures, and membership in the default `public` role to allow creation of temporary tables. (This account is configurable so that you do not need to change access controls on a Microsoft SQL database that is using Windows Authentication.) To configure this account:

    a) Open the Run dialog for your Windows system, and enter `services.msc` in the text field.

    b) Scroll through the list that appears, and check that the IBM Cognos service displays a **Status** of `Started`. (If not, check the log files `cogconfig_response.csv` and `cognserver.xml` (located in the folder *ReportDesigner-install-dir*`\c10\logs`) for more information.)

    c) Right-click the `IBM Cognos` service, and select **Properties**.

    d) Select the **Log On** tab.

    e) Click **This account**.

    f) Either browse for the account name from Active Directory, or enter the name and password for the account with access to both databases, as described above, and click **OK**.

    g) Right-click the `IBM Cognos` service, and select **Restart** .

    Wait patiently while the service restarts (it may take several minutes, and you may need to dismiss a time-out message in the meantime; and in that case also manually refresh the Services list with `F5`). Eventually the **Services** dialog should display that it has started successfully.

Details about accounts and URLs to access Report Designer and any reports you develop in it are included in *Import the Sample Reporting Package* on page 41.

Configure the System

PowerShell scripts are provided to complete configuration of the central application server(s), including the connections to the databases, and then store appropriate values in the database.

▣

Important • For a single server implementation, run the PowerShell scripts on the application server (if you have a separate database server, you do not run the PowerShell scripts on that.) If the logical application server has been separated into multiple servers, the PowerShell scripts must be run on each of these servers, and MUST be run in the following order:

1. *web application server*

2. *batch scheduling server (or processing server, for a two-server application implementation)*

3. *Any separate batch servers*

4. *inventory server(s).*

On each applicable server in turn, as administrator (`fnms-admin`), complete all the following steps (noticing that on different servers, different dialogs may be presented). You should first ensure that these scripts have sufficient authorization to execute, as described in this process.

1. On your web application server, batch server, or inventory server, ensure that Microsoft IIS is running again:

    a) Ensure that your **Server Manager** dialog is still open.

    b) In the left-hand navigation bar, expand **Roles** > **Web Servers (IIS)**, and select **Internet Information Services**.
    The IIS page is displayed.

    c) In the **Actions** panel on the right, select **Start**.
    A message like `Attempting to start...` appears. Note that it can take some time before the service is started. When the service is running, the PowerShell scripts can update the IIS configuration as required.

2. Run PowerShell as administrator (use the 64-bit version where available):

    a) Locate PowerShell. For example:

    • On Windows Server 2012, **Start** > **Windows PowerShell**

    • On earlier releases, in the Windows Start menu, find **All Programs** > **Accessories** > **Windows PowerShell** > **Windows PowerShell** (this is the 64-bit version; the 32-bit version is `Windows PowerShell (x86).`).

    b) Right-click, and choose **Run as Administrator**.

    ▣

    Important • It is critical that you run the PowerShell scripts with administrator privileges. Otherwise, scripts will fail.

3. In the PowerShell command window, execute:

    ```
    set-executionpolicy AllSigned
    ```

    Respond to the warning text with the default `Y`.

4. In the PowerShell command window, navigate through the unzipped downloaded archive to the **Support** folder.

5. On each server, execute:

```
.\Config.ps1 "Config\FNMS Windows Authentication Config.xml"
```

(This script determines the type of server installation, and applies appropriate configuration. See also server-specific comments below.)

💡

*Tip • If your PowerShell window is in its default **QuickEdit** mode (visible in the **Properties** for the window), simply clicking in the window when it already has focus puts it into Mark or Select mode. In such a mode, a process that is writing to the window is paused, awaiting your input. Beware of unintentionally pausing the configuration scripts by extra clicking in this PowerShell window. A process that has been paused in this way is resumed when the window already has focus and you press any key.*

On each server, on first run PowerShell asks whether to trust the publisher of this script. You may allow **Run always** for a certificate signed by Flexera Software LLC.

6. In each case, allow the script to run once, completing the requested details.

💡

Tip • Helpful notes:

- *Use the service account details you created earlier (example: `svc-flexnet`).*

- *Separately on each dialog, the check box **Use the same credentials for all identities** copies the account details from the upper section to the lower section of the dialog.*

- *For externally visible URLs, you can specify either HTTP or HTTPS protocol, and either the flat server name or the fully qualified domain name is supported. Any port number is optional. Valid examples:*

```
http://servername
https://www.servername.mydomain:8080
```

- *The PowerShell script asks for appropriate database connection details, depending on the configuration of the current server (for example, if the current server includes inventory server functionality, the script asks for the Inventory Management database). In each case, supply the host server name (and, if the database instance is not the default instance, the instance name, separated by a backslash character); and the database name for each kind of database. In a small-to-medium implementation, all the operations databases may be on the same host and instance combination; but in larger implementations may be separated onto distinct servers. In either case, each database has a distinct database name, for which the suggested values are:*

  - *The main compliance database: `FNMSCompliance`*

  - *The database for inventory collected by the FlexNet inventory agent: `FNMSInventory`*

  - *The data warehouse for trend reporting: `FNMSDataWarehouse`*

  - *The snapshot database for performance improvement: `FNMSSnapshot`.*

7. Close the PowerShell command window.

8. If this is your batch scheduling server (or the server hosting that functionality), ensure that the services for FlexNet Manager Suite Batch Process Scheduler are running:

   a) Navigate to Start > **Control Panel** > **Administrative Tools** > **View local services**.
      The **Services** dialog opens.

   b) In the list of services, ensure that both `FlexNet Manager Suite Batch Process Scheduler` and `FlexNet Manager Suite Batch Processor` are both running. If not, right-click each stopped service in turn, and from the context menu, select **Start**.

   Note • *These services are critical to the operation of FlexNet Manager Suite. It is best practice to set up your service monitoring to alert you any time either of these services is stopped.*

9. As required for a multi-server implementation, loop back to step 1 and repeat across a multi-server implementation.

   Tip • *On the application server (or on each component server in a multi-server implementation), the PowerShell scripts configure Microsoft IIS with an application pool for FlexNet Manager Platform. This pool requires authentication, and the scripts save the current logged-in account on each server in the IIS configuration for the application pool. When the user account on any server requires a password update, you must also update the password recorded in the IIS configuration for this application pool. For more information, see Password Maintenance on page 49.*

Configuration by the PowerShell scripts is now complete. Although not needed now, at other times it is possible to re-run the PowerShell scripts with the following flags for the use cases shown:

- Use without a flag to add a configuration file to a new installation; or on an existing implementation, to remove all customizations and replace the `web.config` file with the default version:

```
.\Config.ps1 "Config\FNMS Windows Authentication Config.xml"
```

- Add the `updateConfig` flag to insert any new parameters added by Flexera Software, leaving all settings (including customizations) unchanged for existing parameters:

```
.\Config.ps1 "Config\FNMS Window Authentication Config.xml" updateConfig
```

- Add the `forceUpdateConfig` flag to insert any new parameters added by Flexera Software, and restore the default values for all factory-supplied settings, but leaving any custom parameters unchanged:

```
.\Config.ps1 "Config\FNMS Windows Authentication Config.xml" forceUpdateConfig
```

- Add the `removeConfig` flag to remove the `web.config` file before using Windows Programs and Features to uninstall FlexNet Manager Suite:

```
.\Config.ps1 "Config\FNMS Windows Authentication Config.xml" removeConfig
```

Product Activation

Details of your license were emailed to you as part of the order confirmation process. Continue this process as administrator (`fnms-admin`), on the appropriate server (the one that includes the batch scheduling server):

- The application server (in a single server implementation)

- The processing server (in a two server application implementation)

- The batch scheduling server (in a three server application implementation).

1. On the appropriate server, save a copy of your license in a convenient folder (such as your installation folder), where it is accessible for this activation process.

2. In Windows Explorer, navigate to the `Installation-Dir\DotNet\bin` folder.

   Replace *Installation-Dir* with your installation folder. The default location is `C:\Program Files (x86)\Flexera Software\FlexNet Manager Platform\DotNet\bin`.

3. Execute (double-click) `ManageSoft.Activation.Wizard.exe.`

4. Import your license to use FlexNet Manager Suite.

Populate the Downloadable Libraries

FlexNet Manager Suite comes with an Application Recognition Library, a SKU (stock keeping unit) Library, and several Product Use Rights Libraries (the latter depending on which options you have purchased for the product). These are updated regularly by Flexera Software and normally downloaded automatically.

Note • The automated updates, and the following process, both assume that your server has access to the Internet. If this is not the case, you can use an alternative process to managed library updates manually (see Manual Updates of Library Data on page 39).

At installation time, you need to trigger download of the libraries to create a baseline ready for product use.

Tip • New functionality in the 2015 release, including the recognition of some Microsoft Server applications, relies on the latest updates of the downloadable libraries.

Complete this procedure as administrator (`fnms-admin`), having database rights as described in earlier sections.

1. On the batch scheduling server (or application server for a single-server implementation), open the Microsoft Task Scheduler.

2. Manually run the **Recognition data import** scheduled task.

   By default this task is run at 1am daily. The task places a request for download in the queue of the internal batch scheduler. Given that no other processes are running at this stage of your implementation, it executes almost immediately. A utility downloads all libraries according to the terms of your license, and imports them into FlexNet Manager Suite. Typically for a first download, this may take in the order of a half an hour.

3. Thereafter, in the web interface for FlexNet Manager Suite, navigate to the system menu (⚙▼ in the top right corner), select **System Health** >**System Health Dashboard**, and check the cards for:

- **ARL**

- **SKU Library**

- **PURL**.

💡

Tip • *The cards do not refresh automatically. Use* `F5` *to refresh the display from time to time.*

Each card shows the currently installed version of the relevant library, and the date of the last successful download and import of these libraries. Errors display an additional alert icon with some explanatory text. In case of errors, check the following log files, located in `%APPDATA%\Local\Temp` for the service account running the batch processor (suggested: svc-flexnet):

- `ImportPURL-*.log`

- `PURL-*-log.txt`

- `Recognition*.log` (for the Application Recognition Library).

Manual Updates of Library Data

The downloadable Application Recognition Library, Product Use Rights Library, and SKU Library are intended for automated updates delivered directly to your application server (or, in a multi-server implementation, the server hosting the batch scheduling server functionality). This automated process naturally relies on the server having direct Internet access.

However, in some secure environments, the applicable server may not be permitted to have Internet access. For such environments, the process of updating these critical libraries must be maintained manually. The manual process is outlined below; but first there are the following preparations.

- Subscribe to the *Mgs-CM-Announce Mailing List* (`http://maillist.managesoft.com/mailman/ listinfo/mgs-cm-announce_maillist.managesoft.com`). This is the FlexNet Manager Suite library release advisory mailing list, whose members receive email notifications when updates to library data are published.

- Contact *Flexera Software Support* (`https://flexeracommunity.force.com/customer/apex/ SupportSFCaseInsert?rt=sf`) and ask for your Product Use Rights Library content to be published at a private location for you to download when updates are published. You also need to supply an email address, so that you can be notified of any changes to this service.

  💡

  Tip • *Your Product Use Rights Library content is customized according to the options you have licensed.*

- On your applicable server, navigate to the Microsoft Task scheduler and disable the **Recognition data import** task (in the **FlexNet Manager Platform** group).

This prevents the server from attempting to connect to the Internet to start downloads.

When these preparations are completed, you can use the following process to manually update each of the downloadable libraries as new editions are released.

1. When the Application Recognition Library content is updated:

   a) On a computer with Internet access, download the file `http://www.managesoft.com/support/Compliance/RecognitionAfter82.cab`.

   b) Log in to your application server (or the server hosting the batch scheduling server functionality) as a user in the `FNMS Administrators` security group.

      This is the security group recommended during installation. A suggested account to use is fnms-admin.

   c) Copy the downloaded `cab` file to a convenient directory (for example, `C:\Temp`) on this server.

   d) Install the Application Recognition Library content using this command:

      ```
      InstallDir\DotNet\bin\MgsImportRecognition.exe -ia C:\Temp\RecognitionAfter82.cab
      ```

      (replacing *InstallDir* with the installation folder for FlexNet Manager Suite on this server, which by default is `C:\Program File (x86)\Flexera Software\Flexera Manager Platform`.)

      Important • *The update to the Application Recognition Library asserts locks on various database tables, and other transactions that are queued may time out. You should therefore execute this command only in off-peak times.*

2. When SKU Library content is updated:

   a) On a computer with Internet access, download the file `http://www.managesoft.com/support/Compliance/PURL.cab`.

   b) Log in to your application server (or the server hosting the batch scheduling server functionality) as a user in the `FNMS Administrators` security group, such as fnms-admin.

   c) Copy the downloaded `cab` file to a convenient directory (for example, `C:\Temp`) on this server.

   d) Install the SKU Library content using this command:

      ```
      InstallDir\DotNet\bin\MgsImportRecognition.exe -is C:\Temp\PURL.cab
      ```

      (replacing *InstallDir* with the installation folder for FlexNet Manager Suite on this server, which by default is `C:\Program File (x86)\Flexera Software\Flexera Manager Platform`.)

      Important • *The update to the SKU Library asserts locks on some database tables, and other transactions that are queued may time out. Although this has less impact than updates to the Application Recognition Library, best practice is to execute this command only in off-peak times.*

3. When Product Use Rights Library content is updated, multiple files may be added to the location supplied for you by Flexera Software Support. These include `PURL.cab` (for basic functionality), and others with the

naming convention `PURL-vendor.cab` for different vendor options you may have purchased. Process these one at a time:

a) On a computer with Internet access, download the files available to you.

b) Log in to your application server (or the server hosting the batch scheduling server functionality) as a user in the `FNMS Administrators` security group, such as fnms-admin.

c) Copy the downloaded `cab` files to a convenient directory (for example, `C:\Temp`) on this server.

d) Install each Product Use Rights Library in turn using commands like the following:

```
InstallDir\DotNet\bin\MgsImportRecognition.exe -is C:\Temp\PURL.cab
InstallDir\DotNet\bin\MgsImportRecognition.exe -is C:\Temp\PURL-vendor.cab ...
```

(replacing *vendor* with the appropriate name(s), and replacing *InstallDir* with the installation folder for FlexNet Manager Suite on this server, which by default is `C:\Program File (x86)\Flexera Software\Flexera Manager Platform`.)

Tip • *You must install* `PURL.cab` *as the first PURL library installation, before any vendor-related PURLs. If the SKU library has been released simultaneously, you should have already imported* `PURL.cab` *in the previous step (it completes the SKU library import as well); and if this is the case, you do not need to repeat it now.*

Important • *The update to the Product Use Rights Library asserts brief locks on some database tables, and other transactions that are queued may time out. Although this has less impact than updates to the Application Recognition Library, best practice is to execute this command only in off-peak times.*

Import the Sample Reporting Package

This section is only for those using FlexNet Report Designer (powered by Cognos). Even if the installation of FlexNet Report Designer (and Cognos) is shared with (say) FlexNet Manager for Engineering Applications, you must still complete this process.

If you wish to proceed with custom reporting through FlexNet Report Designer, use this process to update your reports package for the new release.

1. Log in to your Report Designer (Cognos) server, and navigate to
   reportDesignerInstallationDirectory`\c10\deployment`.

   Tip • *If this folder does not already exist, create it.*

2. Copy your Report Designer Package - Single Tenant
   (`FlexNetManagerPlatformReportsAndDashboard.zip`) to this folder.

You downloaded this package as you worked through *Download the Materials*.

Important • Do not change the file name. This file name and location are both requirements.

3. You may log out of the Report Designer (Cognos) server now.

    Shortly you will log into your batch scheduling server, but first there are permissions to set.

4. In the web interface for FlexNet Manager Suite 2015 R2, add your current account (suggested: `fnms-admin`) as a Web Administrator for the business reporting portal as follows:

    a) Navigate through the system menu (⚙ ▼ in the top right corner) > **Accounts**.
        The **Accounts** page opens.

    b) Select the **Roles** tab, and check for the existence of the `Business Reporting Portal Admin` role.

        If the role does not already exist, you can create it.

    c) Click the edit (pencil) icon at the right-hand end of the card for this role.
        The properties page for this role appears.

    d) Expand the **Business reporting portal** tab of the accordion, and from the **Privileges** option list, ensure the **Web Administrator** role has **Allow** permissions.

    e) Switch to the **All Accounts** tab, locate your current account (suggested: `fnms-admin`) in the list, and click the account name hyperlink.
        The page switches to show **Account Properties** for your account.

    f) Under the **Permissions** section, check whether your `Business Reporting Portal Admin` role is already listed against the **Role**. If so, you are set for permissions, and should continue with the next step *6*.

    g) Click the + button to the right of your current **Role** (typically, `Administrator`) to add your account to another role.
        A duplicate line appears with another option list of all the roles defines so far.

        Tip • Each enterprise is licensed for only a single operator in the web administrator role. If one has already been defined, you need to move that account out before you can add yourself.

    h) From the duplicate option list, select your `Business Reporting Portal Admin` role.
        The **Business reporting portal** tab of your resulting list of privileges is updated. If you expand this tab of the accordion, you see that **Web Administrator** now displays `Allowed access`.

    i) Scroll to the bottom of this page, and click **Save**.
        Your account is now the (only) web administrator for use of the Report Designer.

        Tip • Report Designer also requires that this account is valid in Active Directory.

5. Using the same account, log into your batch scheduling server directly.

Refer to your block diagram of servers to identify this machine. If you have combined servers, this may be your processing server, or your application server.

6. Navigate in Windows Explorer to *installation-folder*\Cognos \BusinessReportingAuthenticationService\bin.
    Example:

    ```
    C:\Program Files (x86)\Flexera Software\FlexNet Manager Platform\Cognos
    \BusinessReportingAuthenticationService\bin
    ```

7. Right-click CognosPackageImport.exe and **Run as Administrator**.
    A window appears for the **Flexera Report Designer Package Import Utility**.

8. Click **Update...**.
    An **Update Value** dialog appears.

9. In the **Value** field, enter the value for Report Designer's Dispatch URL.

    In a typical installation, this has the following form:

    ```
    http://RD-Server:9300/p2pd/servlet/dispatch
    ```

    where you should replace *RD-Server* with the name of your server hosting Report Designer (powered by Cognos).

10. Click **Update**.
    The value entered is written into the registry on this server, and the additional dialog disappears.

    *Tip • If you run this import utility on the same machine in future, it displays the value stored in the registry in its read-only **Dispatch URL** field.*

11. Click **Install Reports Package**.
    Progress is logged in the text window of this dialog as the package is imported into the Cognos database. When successfully completed, the last line displays Finished publishing the Report Designer package.

    Important • Do not close the utility until it has finished the import! This process may take several minutes.

The Reports Designer reports are now available as baselines for your own customization and extension as required. The reports can be accessed in a web browser at http://*Cognos-webserver*:*port*/cognos10/ cgi-bin/cognos.cgi? (A typical port number is 8889, but check the value in your implementation.)

Review Scheduled Tasks

The PowerShell configuration scripts have created a number of scheduled tasks on the batch scheduling server, in the **FlexNet Manager Platform** folder for Microsoft Scheduled Tasks. These are 'wrappers' which trigger activities in the internal batch scheduler within FlexNet Manager Suite.

You may review these tasks, and disable any that you are certain you do not need. For example, if you never require SAP license reconciliation, you could disable the three Windows scheduled tasks that relate to SAP licensing.

Scheduled tasks across all central servers are listed in *Password Maintenance* on page 49. On the batch scheduling server, the Windows scheduled tasks include:

- Data warehouse export

- Export to ServiceNow

- FlexNet inventory data maintenance

- FNMP database support task

- Import Active Directory

- Import application usage logs

- Import discovery information

- Import installation logs

- Import inventories

- Import Inventory Beacon activity status

- Import Inventory Beacon status

- Import remote task status information

- Import security event information

- Import SAP inventories

- Import SAP package license

- Import SAP user and activity information

- Import system status information

- Import VDI access data

- Inventory import and license reconcile

- Recognition data import

- Regenerate Business Import config

- Send contract notifications.

Link to Flexera Service Gateway

Flexera Service Gateway allows interaction between separate products from Flexera Software.

The ability to link FlexNet Manager Suite to the Flexera Service Gateway is subject to a separate license option. If you have licensed this option (you can check using the process below), you need to configure the connection as part of your configuration process.

To complete this process, you must know credentials that can log into your Flexera Service Gateway server with administrator privileges.

1. Log into the web interface for FlexNet Manager Suite.

   Tip • *Either log in from a computer other than your web application server; or if running on that server, ensure that you access the full server name (and not* `localhost`*) in the URL. The URL in your web browser is taken into account in preparing the integration file, and should not include* `localhost` *if you want to integrate with other products from Flexera Software.*

2. Optionally, check that you have licensed the option to link to Flexera Service Gateway:

   a) Navigate to the system menu (⚙ ▼ in the top right corner) > **FlexNet Manager Suite License**. The **Your FlexNet Manager Suite License** page appears.

   b) Check the **License details** section.

      If you have licensed this option, `FNMP API integration enabled: Yes` appears in the list. If it is not visible, you cannot continue with this procedure.

3. Navigate to the system menu ⚙ ▼ > **System Settings**, and select the **Web API** tab.

   Note • *This tab is available only if your enterprise has licensed the FNMP API integration option.*

4. Click each of the links in turn to download the two files, and save them to a convenient location (such as `C:\temp`).

   There must be network access to your Gateway server from the location where you save the files.

5. Either, in your web browser's list of recent downloads, click the registration tool to open it; or

   a) Open a Command Window, and navigate to the location where you downloaded the files.

   b) Run `RegisterFlexeraServiceGateway.exe`.

   The **Flexera Service Gateway Registration** dialog appears.

6. Identify the **Flexera Service Gateway host**, the server in your enterprise where the Gateway is installed, and the **Port** number.

   You may use an IP address, a fully qualified domain name, or (if your DNS is correctly configured and accessible) the server's host name. The default port number is 9443.

7. Provide the credentials for administrator access to the Gateway account.

8. Use the **Import** button to browse to the other downloaded file, `webapi.config`, and import it into the registration tool.

9. Click **OK**.
   Registration is complete. (You do not need to repeat this registration on others of your central servers.)

Set Up Initial Access Rights

The installing account (example: `fnms-admin`) defaults to having administrator privileges in your new implementation.

An account (such as that installing account) with administrator rights to FlexNet Manager Suite must set up access rights for other operators.

To do this:

1. Log in to the web interface to FlexNet Manager Suite 2015 R2.

2. Navigate through the system menu (⚙ ▼ in the top right corner) > **Accounts**, and select the **Roles** tab.

3. For each unique set of access rights, ensure that there is (or create) a distinct role, and set its rights by expanding the various headings in the accordion and using the controls inside. (For advanced combinations, start by selecting `Custom` from the option list in each section.) Remember to scroll down and click **Save** (or **Create**) when you make any changes.

4. When appropriate roles are defined, switch to the **All Accounts** tab.

5. Find each account in the list in turn, and click the hyperlinked account name to open its properties.

6. Change the roles assigned, or add additional roles, to each account as required.

   The net effect of all roles on permissions for this account is displayed in read-only mode in the accordion below as you make changes. (Remember that a 'deny' in one role over-rides an 'allow' in another role when the same account is assigned to both roles.)

7. Remember to **Save** each changed account.

Configure Beacon Connections

Inventory beacons are the data-gathering arms of your compliance system.

Remember that it is both common and helpful to install an inventory beacon on your batch scheduling server. Uniquely amongst your beacons, this one has access to the operations databases, which (for example) gives extra functionality to business adapters created and run on this inventory beacon.

Important • When you install an inventory beacon on your batch scheduling server, you must manually configure that inventory beacon to use Microsoft IIS, as described in the online help. In particular, see FlexNet Manager Suite Help > What Is an Inventory Beacon? > Configuring Direct Inventory Gathering.

The process for installing and configuring inventory beacons starts from the web UI for FlexNet Manager Suite.

Note • Any computer on which you will install an inventory beacon must have at least version 3.0 of PowerShell installed. For more information, see Upgrade PowerShell on Inventory Beacons on page 17.

1. Use a web browser on another computer to access the URL ***server-name-or-IP-address*/Suite/**.

2. In the **Discovery & Inventory** menu, under the **Network** group, select **Beacons**.

3. Click **Deploy a beacon**.
   The **Deploy a Beacon** page appears. Ensure that the default **Download beacon** section of the accordion is open.

4. Click **Download beacon**.

5. Use the web browser dialog to save the installer to a convenient directory on the inventory beacon computer (such as `C:\temp`).

6. In Windows Explorer, navigate to the saved file, and double-click it to run the installer.

7. In the web interface for FlexNet Manager Suite, expand the accordion sections (and see the related help) for guidance on how to deploy and configure your inventory beacon(s).

   ☞

   Remember • When installing an inventory beacon on your batch scheduling server, you must manually configure that inventory beacon. In the online help, see FlexNet Manager Suite Help > What Is an Inventory Beacon? > Configuring Direct Inventory Gathering, and be sure to select the IIS option.

8. With your inventory beacon(s) configured, in the web interface for FlexNet Manager Suite, navigate to **Discovery & Inventory** >**Discovery** >**Discovery and Inventory Rules** to set up FlexNet inventory collection rules.

9. Refer to the online help for details about configuring your inventory beacon(s) to connect to other data sources to import third-party inventory.

   For example, in the section *FlexNet Manager Suite Help > Inventory Beacons*, see (amongst others) the following topics:

   • *Inventory Systems Page*

   • *SAP Systems Page*

   • *Engineering Apps Agent Page*.

When the inventory collections rules are established, and the connections set up on the inventory beacon(s), FlexNet Manager Suite is ready to import data and start calculating your license position.

3

Notes on Issues

Topics:

- *Password Maintenance*

- *Identifying IIS Application Pool Credential Issues*

- *IIS Roles/Services*

This chapter includes a few brief guidelines for dealing with common issues. If you discover additional issues not described here, please contact Flexera Software Support for assistance.

For help on problems uploading inventory data, access the online help through the web interface for FlexNet Manager Suite, and navigate to **FlexNet Manager Suite Help** > **Inventory Beacons** > **Inventory Beacon Reference** > **Troubleshooting: Inventory Not Uploading**.

Password Maintenance

When a password on the service account expires, services cease to operate. At password refresh time, ensure that the password is updated for all of the following.

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Note • For accuracy, the changes are listed for distinct servers. In smaller implementations:

- *If you have only a web application server and a processing server, then combine the lists for the batch scheduling server and inventory server for use on your processing server.*

- *In a single server implementation, combine all three lists on your application server.*

The configuration scripts used during product installation cannot be re-run simply to update passwords. The following passwords must all be maintained manually.

On the web application server

- The identity configured on the following IIS application pools:
    - **FlexNet Manager Platform**
    - **ManageSoftWebServiceAppPool**
    - **SAP Optimization**
    - **SAPServiceAppPool**

On the batch scheduling server

- The identity configured on the IIS application pool: **Flexera Beacon**
- In Services:
    - **FlexNet Manager Suite Batch Process Scheduler**
    - **FlexNet Manager Suite Batch Processor** (if you have separated out to multiple batch servers, this is also found on each batch server, and the password must be updated there as well)
- In the **FlexNet Manager Platform** folder for Microsoft Scheduled Tasks:
    - Data warehouse export
    - Export to ServiceNow
    - FlexNet inventory data maintenance
    - FNMP database support task
    - Import Active Directory
    - Import application usage logs
    - Import discovery information

- Import installation logs

- Import inventories

- Import Inventory Beacon activity status

- Import Inventory Beacon status

- Import remote task status information

- Import security event information

- Import SAP inventories

- Import SAP package license

- Import SAP user and activity information

- Import system status information

- Import VDI access data

- Inventory import and license reconcile

- Recognition data import

- Regenerate Business Import config

- Send contract notifications.

On the inventory server

- The identity configured on the following IIS application pools:

  - **Flexera Importers**

  - **Flexera Package Repository**

- In the **FlexNet Manager Platform** folder for Microsoft Scheduled Tasks:

  - Import Active Directory

  - Import application usage logs

  - Import discovery information

  - Import installation logs

  - Import inventories

  - Import Inventory Beacon activity status

  - Import Inventory Beacon status

  - Import remote task status information

  - Import security event information

  - Import system status information

- Import VDI access data.

On the Cognos server

The password on the IBM Cognos service also needs to be maintained.

Identifying IIS Application Pool Credential Issues

A password change on (any of the) application server(s) may require an update of the IIS configuration.

Background

During installation of an on-premises implementation, PowerShell scripts run on the application server (or, in a multi-server implementation, on each of the component servers in turn) ask you to provide credentials for the application pools used within IIS for FlexNet Manager Suite. The scripts save these as part of the IIS configuration.

Note • If, as recommended, you have used a service account (suggested: `svc-flexnet`) for this purpose, it is very unusual to require a password change for such an account. If you used a normal user account, you require this additional maintenance each time that the password on that account is changed.

If, at any time after installation, the password for this user account is updated, the IIS configuration is now out of date, and IIS will refuse to run the application pools for FlexNet Manager Suite.

Tip • In this case, as well as IIS configuration, you may also need to update passwords on scheduled tasks and on services. For a complete list, see Password Maintenance on page 49.

Diagnosis

First symptom: The web interface for FlexNet Manager Suite will not load, producing the following error:

```
HTTP Error 503 - Service unavailable
```

Investigation: If you examine the Microsoft IIS application pools, you will find that the application pool for FlexNet Manager Platform is disabled after any attempt to run the web interface. An examination of the IIS log file shows entries like the following:

```
server-name  5057  Warning Microsoft-Windows-WAS  System  date time
Application pool FlexNet Manager Platform has been disabled. Windows Process Activation
Service (WAS)did not create a worker process to serve the application pool because the
application pool identity is invalid.

server-name  5059  Error  Microsoft-Windows-WAS  System  date time
Application pool FlexNet Manager Platform has been disabled. Windows Process Activation
Service (WAS) encountered a failure when it started a worker process to serve the
application pool.
```

```
server-name  5021  Warning Microsoft-Windows-WAS  System  date time
The identity of application pool FlexNet Manager Platform is invalid. The user name or
password that is specified for the identity may be incorrect, or the user may not have
batch logon rights. If the identity is not corrected, the application pool will be
disabled when the application pool receives its first request.  If batch logon rights
are causing the problem, the identity in the IIS configuration store must be changed
after rights have been granted before Windows Process Activation Service (WAS) can
retry the logon. If the identity remains invalid after the first request for the
application pool is processed, the application pool will be disabled. The data field
contains the error number.
```

Repair

Update the credentials for the applications pool on each of your application servers, using the process in *Update Credentials in IIS Application Pools* on page 52.

Update Credentials in IIS Application Pools

To update the password for the FlexNet Manager Suite application pools within Microsoft IIS, complete the following process on each of your servers in turn:

💡

Tip • *Servers are here named in a series from most specific (in large scale implementations) to most general (for small scale implementations). Use the first-listed server type that applies to you. For example, if the list item says 'on the inventory server/processing server/application server', and you have a separate inventory server, make the change there. If you do not have a separate inventory server, but you have scaled to a separate processing server (that combines your inventory server and your batch server), make the change on your processing server. For a single-server implementation, you make this change on your application server.*

1. Open IIS Manager (**Start** > **Administrative Tools** > **Internet Information Service (IIS) Manager**).
2. In the navigation area on the left, expand the ***SERVER-NAME (account-name)*** node, and select **Application Pools**.
   Any application pool accessed since the user account password was changed displays a status of `Stopped`. On each server type, the relevant application pools are:

   • **Flexera Beacon** on the batch scheduling server/processing server/application server

   • **Flexera Importers** on the inventory server/processing server/application server

   • **Flexera Package Repository** on the inventory server/processing server/application server

   • **FlexNet Manager Platform** on the web application server/application server

   • **ManageSoftWebServiceAppPool** on the web application server/application server

   • **SAP Optimization** on the web application server/application server

   • **SAPServiceAppPool** on the web application server/application server.

3. Select the appropriate application pool, and in the **Actions** list on the right, click **Advanced Settings**. The **Advanced Settings** dialog appears.
4. In the **Process Model** section, select **Identity**, and click the ellipsis button next to the account name.

5. Next to **Custom Account**, click **Set**.
   The **Set Credentials** dialog appears.

6. Enter the full **User name** for the account and enter the updated password in the two required fields.

7. Click **OK** to close all the open dialogs and save the new settings.

8. With the appropriate application pool still selected, in the **Actions** list on the right, click **Start**.

IIS Roles/Services

Below are the Microsoft Internet Information Services (IIS) roles and services utilized by FlexNet Manager
Suite. In the event of misbehavior, it is often helpful to validate that all of the following are enabled on all your
central servers (depending on the scale of your implementation, the ones that you have implemented from
the application server, the web application server, the processing server, the batch scheduling server, and the
inventory server). The process for checking whether the services are enabled is summarized below the list.

- `Web Server > Application Development > .NET Extensibility`

- `Web Server > Application Development > ASP.NET`

- `Web Server > Application Development > CGI`

- `Web Server > Application Development > ISAPI Extensions`

- `Web Server > Application Development > ISAPI Filters`

- `Web Server > Common HTTP Features > Default Document`

- `Web Server > Common HTTP Features > Directory Browsing`

- `Web Server > Common HTTP Features > HTTP Errors`

- `Web Server > Common HTTP Features > HTTP Redirection`

- `Web Server > Common HTTP Features > Static Content`

- `Web Server > Health and Diagnostics > HTTP Logging`

- `Web Server > Performance > Dynamic Content Compression`

- `Web Server > Performance > Static Content Compression`

- `Web Server > Security > Basic Authentication`

- `Web Server > Security > Request Filtering`

- `Web Server > Security > Windows Authentication`

To check whether these services are enabled in the Windows Server operating system:

1. Starting from the Windows start menu, navigate to **Control Panel** > **Administrative Tools** > **Server Manager**.

2. In the navigation bar on the left, under the **Server Manager** node, select the **Roles** node.

3. Locate the **Web Server (IIS)** section, and within that, identify the **Role Services** section.
   This section lists the status for each service. All of those in the list above should be both installed and enabled
   on all your central servers.

4

Additional Information

Details about installing, configuring and operating the inventory beacon are summarized directly in the web interface for FlexNet Manager Suite, and are detailed in the online help available through those pages.

Additional documentation is available through the title page of online help for your implementation:

- *FlexNet Manager Suite Adapters Reference* covers standard adapters available for the system that manipulate data from external systems into a format useable by FlexNet Manager Suite.

- *Using FlexNet Business Importer* covers the use of this command-line executable, which is also the tool used by the Business Adapter Studio to drive imports from adapters defined there. This document includes the data model common to the Business Importer and the Business Adapter Studio, as well as some sample adapters (called the Data Domain Interface, or DDI).

- *FlexNet Manager Suite Schema Reference* provides a working reference to the database tables and columns for FlexNet Manager Suite. This is particularly useful if you want to prepare (or specify) customizations, or to understand more as you prepare custom adapters.

- *FlexNet Manager Suite System Reference* collects a variety of reference material, including:

  - How to customize FlexNet Manager Suite

  - How to use spreadsheets (or CSV files) of inventory data for one-time or scheduled imports

  - Using the lightweight FlexNet Inventory Scanner

  - How to use the two adapter studios (duplicated from online help).

- *FlexNet Inventory Agent and Managed Devices* introduces third-party alternatives to the automated deployment of the FlexNet inventory agent, as well as command lines and preference settings for some of the code agents that are deployed to the adopted device.

Additional documentation for FlexNet Manager for SAP Applications is available through the Customer Community portal.